

**AMENDMENTS TO THE CLAIMS**

Claim 1. (currently amended) A decoding apparatus for decoding parallel concatenated coded data comprising:

soft output decoding means of a plurality of stages for performing decoding processing repeatedly;

means for comparing data which is decoded this time with data which is decoded previous time, both of which are decoded in the repetitive decoding processing;

means for detecting error of resulting decoded data using error detecting codes;

and

means for finally judging whether or not error is generated in accordance with output data from the error-detecting means and output data from the comparing means;

wherein the means for comparing data obtains the number of discordant sign bits by comparing sign bits of this time with sign bits of previous time, the sign bits being included in output data from the last stage of the soft output decoding means of the plural stages, and

wherein if the number of discordant sign bits is larger than a predetermined value, the means for finally judging determines that there was an error generated even though the error detection result shows that no error was generated.

Claim 2. (canceled)

Claim 3. (currently amended) A decoding method for decoding parallel concatenated coded data, in performing decoding processing repeatedly using soft output decoding means of a plurality of stages, the decoding method comprising the steps of:

comparing data which is decoded this time with data which is decoded previous time, both of which are decoded in the repetitive decoding processing;

detecting error of resulting decoded data using error detecting codes; and

finally judging whether or not error is generated in accordance with error detecting output data obtained at the error-detecting step and comparing output data obtained at the comparing step;

wherein the comparing step obtains the number of discordant sign bits by comparing sign bits of this time with sign bits of previous time, the sign bits being included in output data from the last stage of the soft output decoding means of the plural stages, and

in case the number of discordant sign bits is larger than a predetermined value, the judging step determines that there was an error generated even though the error detection result shows that no error was generated.

Claim 4. (canceled)

Claim 5. (currently amended) A data receiving apparatus which has soft output decoding means of a plurality of stages for receiving parallel concatenated coded data and decoding the data repeatedly, comprising:

means for comparing data which is decoded this time with data which is decoded previous time, both of which are decoded in the repetitive decoding processing;

means for detecting error of resulting decoded data using error detecting codes;  
and

retransmission controlling means for sending a signal requesting retransmission of data in accordance with output data from the comparing means and output data from the error-detecting means;

wherein the retransmission controlling means sends the signal requesting retransmission of data in case the error-detecting means determines that there is an error generated, and changes retransmitting manner in accordance with the output data from the comparing means.

Claim 6. (canceled)

Claim 7. (currently amended) The data receiving apparatus as set forth in Claim 65, wherein

the comparing means compares sign bits of this time with sign bits of previous time, the sign bits being included in output data from the last stage of the soft output decoding means of the plural stages, and

the retransmission controlling means sends the signal requesting retransmission of data in case the error-detecting means determines that there is generated error, and changes the

retransmitting manner in accordance with the number of discordant sign bits obtained by the comparing means.

Claim 8. (original) The data receiving apparatus as set forth in Claim 7, wherein the received coded data is punctured codes which has a portion of data thereof deleted at an encoding side, and

the retransmission controlling means sends the signal requesting retransmission of data by selecting one of retransmission of the deleted data, retransmission of original punctured codes, and retransmission of all data before being deleted, in accordance with the number of discordant sign bits obtained by the comparing means.

Claim 9. (original) The data receiving apparatus as set forth in Claim 5, wherein the comparing means compares sign bits of this time with sign bits of previous time, the sign bits being included in output data from the last stage of the soft output decoding means of the plural stages, and, in case the number of discordant sign bits is larger than a predetermined value, it is determined that there is generated error irrespective of the error detection result, and the retransmission controlling means sends the signal requesting retransmission of data.

Claim 10. (original) The data receiving apparatus as set forth in Claim 9, wherein the received coded data is punctured codes which has a portion of data thereof deleted at an encoding side, and

the retransmission controlling means sends the signal requesting retransmission of data by selecting one of retransmission of the deleted data, retransmission of original punctured

codes, and retransmission of all data before being deleted, in accordance with the number of discordant sign bits obtained by the comparing means.

Claim 11. (currently amended) A data receiving method which has function of receiving parallel concatenated coded data and decoding the data repeatedly by using soft output decoding means of a plurality of stages, comprising the steps of:

comparing data which is decoded this time with data which is decoded previous time, both of which are decoded in the repetitive decoding processing;

detecting error of resulting decoded data using error detecting codes; and

retransmission controlling step of sending a signal requesting retransmission of data in accordance with comparing output data obtained at the comparing step and error detecting output data obtained at the error-detecting step;

wherein the retransmission controlling step sends the signal requesting retransmission of data in case the error-detecting step determines that there is an error generated, and changes retransmitting manner in accordance with the comparing output data obtained at the comparing step.

Claim 12. (canceled)

Claim 13. (currently amended) The data receiving method as set forth in Claim ~~12~~11, wherein

the comparing step compares sign bits of this time with sign bits of previous time, the sign bits being included in output data from the last stage of the soft output decoding means of the plural stages, and

the retransmission controlling step sends the signal requesting retransmission of data in case the error-detecting step determines that there is generated error, and changes the retransmitting manner in accordance with the number of discordant sign bits obtained at the comparing step.

Claim 14. (original) The data receiving method as set forth in Claim 13, wherein the received coded data is punctured codes which has a portion of data thereof deleted at an encoding side, and

the retransmission controlling step sends the signal requesting retransmission of data by selecting one of retransmission of the deleted data, retransmission of original punctured codes, and retransmission of all data before being deleted, in accordance with the number of discordant sign bits obtained at the comparing step.

Claim 15. (original) The data receiving method as set forth in Claim 11, wherein the comparing step compares sign bits of this time with sign bits of previous time, the sign bits being included in output data from the last stage of the soft output decoding means of the plural stages, and, in case the number of discordant sign bits is larger than a predetermined value, it is determined that there is generated error irrespective of the error detection result, and the retransmission controlling step sends the signal requesting retransmission of data.

Claim 16. (original) The data receiving method as set forth in Claim 15, wherein the received coded data is punctured codes which has a portion of data thereof deleted at an encoding side, and the retransmission controlling step sends the signal requesting retransmission of data by selecting one of retransmission of the deleted data, retransmission of original punctured codes, and retransmission of all data before being deleted, in accordance with the number of discordant sign bits obtained at the comparing step.